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Symposium explores effects of economic change on freight transportation

The global economic downturn is radically and rapidly reshaping transportation priorities and needs. During the 15th Annual Freight and Logistics Symposium in December, representatives from the business, academic, and public sectors gathered to discuss the effects of economic change on freight and logistics providers.


Christopher Caplice

In the symposium's first session, Christopher Caplice, executive director of the Center for Transportation and Logistics at the Massachusetts Institute of Technology, discussed his work on the Future Freight Flows (FFF) project. The initiative, launched as part of National Cooperative Highway Research Program Project 20-83(01), is primarily concerned with improving the way freight infrastructure investments are made.

The FFF project uses scenario planning to overcome the challenges associated with longterm planning of complex projects involving many stakeholders. Rather than trying to predict the state of the world in 30 or more years, scenario planning allows planners to prepare for a range of futures and compare strategies and investments across a variety of possible outcomes.

"We want to build the skill of preparing, not predicting. Many different events could have the same effect, so instead of forecasting each specific event, scenario planning prepares for effects," Caplice said. "With regard to freight flows, this means planning for impacts to sourcing patterns, flow destination, routing, flow volume, and value density."

Following Caplice, two symposium panel discussions focused on technology and post-recession capacity—and implications for Minnesota—as well as the intersection of transportation and economic development.

During the symposium's first panel, Wil Kratz, vice president of operations with Logistics Planning Service, observed that "as technology evolves and costs come down, I foresee RFID, and other related technologies, providing increased product visibility to shippers."

Judy Mitchell, director of passenger rail strategic initiatives with Canadian Pacific Railway, also participated in the first panel. She reported that throughout the recession, the freight railroad industry has continued making investments. She also predicted that the fuel efficiency of railroads and their lower carbon footprint will attract more business to rail.

The second panel focused on the intersection of transportation and economic development. Steve Elmer, planning analyst with the Metropolitan Council, described the work of the Metropolitan Area Freight Study, a joint effort between the Metropolitan Council and the Minnesota Department of Transportation (MnDOT). "One of the main reasons we're conducting this study now," he said, "is that the metro region is geographically in the center of the state and therefore at the center of many freight issues that have statewide significance."

Also during the second panel, Vann Cunningham, assistant vice president of economic development with Burlington Northern Santa Fe, said the Twin Cities is an important hub for BNSF. "The Twin Cities," he said, "is a major gateway for moving the increasing amounts of Bakken Shale crude oil coming out of North Dakota as well as moving taconite, paper, and corn."

The event was sponsored by CTS in cooperation with MnDOT, the Minnesota Freight Advisory Committee, the Council of Supply Chain Management Professionals–Twin Cities Roundtable, the Metropolitan Council, and the Transportation Club.

Related resources:

- MIT Center for Transportation and Logistics
- NCHRP 20-83(01): Economic Changes Driving Future Freight Transportation
- Twin Cities Metropolitan Area Regional Freight Initiative
- Read more details about the event in the *CTS Report*
- Download the a summary report of the event (261 KB PDF)

Mark your Calendar: 16th Annual Freight and Logistics Symposium scheduled for December 7, 2012

June MFAC meeting focuses on the role of transportation in economic development

The Minnesota Freight Advisory Committee (MFAC) met for a quarterly meeting on June 22, 2012, at Ramada Plaza in Minneapolis, Minnesota. The agenda included discussion of economic development and transportation.

Bill Gardner, director of the MnDOT Office of Freight and Commercial Vehicle Operations, provided an overview of the 2012 legislative session, including the number of transportation-related bills that were passed in both the House and the Senate.

Matt Shands, representing the MnDOT Transportation Economic Development Program, gave a presentation about the program, a joint effort of MnDOT, the Department of Employment and Economic Development (DEED), and the Public Facilities Authority. Shands stressed the need for collaboration on highway improvement projects to support the development of new businesses and expanding existing businesses.

Louis Jambois, president of the St. Paul Port Authority, emphasized the need to fuel economic development in St. Paul. He compared the pre-development and post-development of businesses and property taxes in the local area. In addition, he presented calculations of new local jobs and annual taxes in Saint Paul.

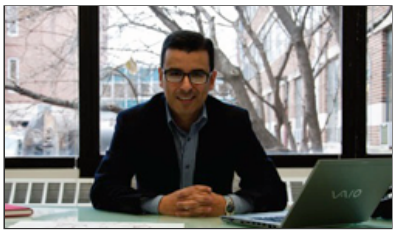
Neil Jenson, Zumbrota city administrator, described a project to upgrade a township road into a 10-ton concrete highway to provide a better, safer route onto Highway 60. At present, the area is extremely dangerous and prone to crashes. Long-range plans include construction of interchanges and overpasses, which Jenson also hopes will advance the economic development of Zumbrota. “With cooperation between the city, county, and state through the TED program,” Jenson said, “we’re wiping out a dangerous intersection and creating a nice, fluid route for trucks to get out and on the highway.”

Frank Jaskulke, director of member services at LifeScience Alley, compared transportation costs and travel times with job locations and the effect on the med-tech workforce concentration in the Twin Cities area. Location decisions, he said, are driven by access. As a result, he added, the Twin Cities metro area has a high concentration of med-tech firms (the second largest cluster in the world) because major highways like I-694, I-494, and I-35 provide easy access for employees and suppliers.

Finally, Philip Schaffner, a planner with the MnDOT Office of Statewide Multimodal Planning, talked about Corridor Investment Management Strategy (CIMS), a corridor-based initiative that brings MnDOT together with its partners to exchange information and discuss opportunities for collaborative and sustainable investment. He said that the goal is to advance cost-effective strategies for regional and local priorities, provide greater transparency and collaboration in MnDOT’s investment planning and programming, and build partnerships that leverage public resources to achieve multiple purposes. Schaffner added that CIMS is focusing on things that can be done in the near to medium term.

The Minnesota Freight Advisory Committee (MFAC) is a partnership between government and business to exchange ideas and recommend policy and actions that promote safe, productive, and sustainable freight transportation in Minnesota. MFAC consists of representatives from Minnesota’s shipper and carrier communities as well as a variety of other interested organizations, and provides advice to the Minnesota Department of Transportation (MnDOT) and the Metropolitan Council regarding freight issues and investments.

Designing smart supply chains: Saif Benjaafar


Saif Benjaafar

The shortest distance between two points is a straight line. But what’s the shortest distance among hundreds of points? University of Minnesota Distinguished McKnight University Professor Saif Benjaafar draws on knowledge of engineering, economics, computing, and business to determine the most efficient way to manage complex supply chains.

“How do we design supply chains with the environmental footprint in mind?” he asks.

A mechanical engineering professor until recently, Benjaafar has spent the past decade getting the Industrial and Systems Engineering program off the ground. Since its launch three years ago, the program has attracted a growing population of students and talented faculty. The program is on its way to becoming the newest department within the College of Science and Engineering. And its evolution reflects Benjaafar’s overall mission as a researcher.

“The program has taken engineering to a higher level,” he says. “It ties in broad societal concerns and challenges. It accounts for the human element.”

The McKnight grant will help him support more students and offer multi-year research positions that are more attractive to students and post-docs. It will also help him pursue longer-term, riskier projects.

Benjaafar’s discoveries about everyday business practices may prolong the livability of the planet. His research combines several disciplines to examine the entire product life cycle—raw material extraction, manufacturing, distribution, warehousing, and retail.

In the process, he is collaborating with researchers in France, Hong Kong, Singapore, Belgium, and China. His team

works with faculty from nearly every college on campus, while maintaining ties with industry partners.

He explains the etching on the glass panels in his office make up a “minimum spanning tree,” a supply chain that connects several nodes in the simplest possible way.

In New York, a bottle of wine from France may have arrived at your table at a lower carbon cost than a bottle from California. If the goal is to get the wine to its destination with minimal environmental damage, then where should the winery locate its plants? How should it source grapes? And how should it manage its distribution network?

Benjaafar seeks the best-case-scenario answers. He says there are opportunities to significantly reduce the environmental footprint of supply chains by rethinking their operation—without necessarily making expensive investments or waiting for new technology to mature.

“Human decision making is at the center of how we manage these systems,” he says, “and ultimately, how we should design them.”

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MnDOT hosts the 2012 Mid-America Freight Coalition annual meeting

The Minnesota Department of Transportation (MnDOT) hosted the 2012 Mid-America Freight Coalition (MAFC) annual meeting April 18–20 in Minneapolis, Minnesota. A detailed summary of the event is available online. MAFC is a regional organization that cooperates in the planning, operation, preservation, and improvement of transportation infrastructure in the Midwest. The 10 states of the AASHTO Mid-America Association of State Transportation Officials (MAASTO) share key interstate corridors, inland waterways, and the Great Lakes. The MAFC is funded by the National Center for Freight & Infrastructure Research & Education and the DOTs of the 10 member states. MAFC is administered by the National Center for Freight and Infrastructure Research and Education (CFIRE) at the University of Wisconsin in Madison, Wisconsin.

CSCMP–Twin Cities Roundtable events

Please visit the Minnesota Council of Supply Chain Management Professionals–Twin Cities Roundtable online for information about upcoming events.

September 30 – October 3, 2012
CSCMP Annual Global Conference
Georgia World Congress Center
Atlanta, Georgia

FHWA 'Talking Freight' seminars

Upcoming topics and dates for the "Talking Freight" online seminars from the Federal Highway Administration (FHWA) are listed on the Talking Freight website.

August 15, 2012
Freight Considerations in Traffic Incident Management
1:00–2:30 p.m. (Eastern)

September 19, 2012
Integrating Sustainability Analysis into Freight Transportation Projects and Programs
1:00–2:30 p.m. (Eastern)

More news and information

The American Transportation Research Institute (ATRI) published findings in May from the first phase of a three-part research effort aimed at mitigating costly large truck rollovers, *Mapping Large Truck Rollovers: Identification and Mitigation Through Spatial Data Analysis*. ATRI’s first phase produced a database of locations with the highest frequency of large truck rollovers using over 50,000 crash records from a nine-year period. The database, which covers 31 states, provides valuable insight into the location of high frequency rollover locations to both public transportation officials and the trucking industry.

Recently published freight-related research from the Transportation Research Board (TRB):

- *National Freight Cooperative Research Program (NCFRP) Report 16: Preserving and Protecting Freight Infrastructure and Routes* (March 2012)
- *National Freight Cooperative Research Program (NCFRP) Report 15: Dedicated Revenue Mechanisms for Freight Transportation Investment* (April 2012)
- *National Freight Cooperative Research Program (NCFRP) Report 14: Guidebook for Understanding Urban Goods Movement* (March 2012)
- *Leading in Lean Times: Findings from the Transportation Research Board's 2011 State Partnership Visits Program* (March 2012)
- *National Cooperative Freight Research Program (NCFRP) Research Results Digest 3: A Status Report 2011* (January 2012)

More upcoming events:

August 27-31, 2012
PIANC USA Annual Meeting
Pittsburgh, Pennsylvania

September 19-21, 2012
National Waterways Conference Annual Meeting
Tunica, Mississippi

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